

GILSON et al.
Appln. No. 10/058,828
Supplemental Amendment Under 37 CFR 1.111

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-43. (canceled).

44. (previously presented): Apparatus for filtering emboli from blood flowing through a vessel, the apparatus comprising:

- a guide wire having a distal region and a stop on the distal region;
- a capture ring disposed for translation on the guide wire, the stop limiting translation of the capture ring in a distal direction; and
- a self-expanding filter sac connected to the capture ring;

wherein, when the filter sac is deployed in the vessel, rotation or distal translation of the guide wire relative to the capture ring does not displace the filter sac, but retraction of the guide wire in a proximal direction causes the stop to abut against the capture ring.

Claims 45 - 47. (canceled).

48. (previously presented): Apparatus for filtering emboli from blood flowing through a vessel, the apparatus comprising:

- a guide wire having a first portion having a first diameter and a distal region having a second diameter greater than the first diameter; and

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a self-expanding filter element having a capture ring disposed for translation on the first portion, the capture ring having an aperture greater than the first diameter but smaller than the second diameter,

wherein rotation or distal translation of the guide wire relative to the capture ring does not displace the filter element.

49. (previously presented): The apparatus of claim 48 wherein the filter element comprises an expandable sac.

Claims 50-52. (canceled).

53. (previously presented): The apparatus of claim 48 wherein the guide wire further comprises a flange disposed on the distal region having a diameter larger than the diameter of the aperture in the capture ring.

Claims 54-64. (canceled).

65. (previously presented): A method of filtering emboli from blood flowing through a vessel, the method comprising:

providing a guide wire having a distal stop, and a filter element having a capture ring disposed for translation on the guide wire proximal of the stop;

transluminally inserting the guide wire and filter element into a vessel;

deploying the filter element to engage a wall of the vessel, the filter element filtering emboli out of blood flowing through the vessel;

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advancing a treatment device along the guide wire to treat a portion of the vessel proximal to the location of the filter element, rotation or distal translation of the guide wire relative to the filter element imparted by the treatment device not displacing the filter element.

66. (canceled).

67. (previously presented): The method of claim 65 further comprising: providing a delivery sheath; and

compressing the filter element to a contracted state to insert the filter element within the delivery sheath.

68. (previously presented): The method of claim 65 wherein the filter element comprises an expandable sac, and deploying the filter element comprises expanding the expandable sac so that a perimeter of the expandable sac contacts the wall of the vessel.

Claims 69-84. (canceled).

85. (previously presented): Apparatus for filtering emboli from blood flowing through a vessel, the apparatus comprising:

a guide wire having a distal stop;

a filter element disposed for rotation on a distal region of the guide wire, the filter element comprising a self-expanding strut and a filter sac connected to the self-expanding strut; and

the distal stop disposed on the distal region distal to the filter element, the distal stop limiting distal translation of the filter element on the guide wire;

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wherein, when the filter sac is deployed in the vessel, rotation of the guide wire does not displace the filter element.

Claims 86-91. (canceled).

92. (previously presented): A method of filtering emboli from blood flowing through a vessel, the method comprising:

providing a guide wire having a distal stop, and a filter element disposed for translation on the guide wire proximal to the distal stop, the filter element comprising a plurality of self-expanding struts having a filter sac affixed thereto,

transluminally inserting the guide wire and filter element into a vessel;

deploying the filter element so that the struts and filter sac expand to engage a wall of the vessel, the filter sac filtering emboli out of blood flowing through the vessel;

advancing a treatment device along the guide wire to treat a portion of the vessel proximal to the location of the filter element, rotation or distal translation of the guide wire relative to the filter element imparted by the treatment device not displacing the filter element.

93. (previously presented): A method of filtering emboli from blood flowing through a vessel, the method comprising:

providing a guide wire having a distal region including a distal stop, and a filter element disposed for translation on the guide wire proximal to the distal stop, the filter element comprising a plurality of self-expanding struts having a filter sac affixed thereto,

transluminally inserting the guide wire and filter element into a vessel;

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deploying the filter element so that the struts and filter sac expand to engage a wall of the vessel, the filter sac filtering emboli out of blood flowing through the vessel;

advancing a treatment device along the guide wire to treat a portion of the vessel proximal to the location of the filter element, rotation or distal translation of the guide wire relative to the filter element imparted by the treatment device not displacing the filter element;

further comprising retracting the guide wire in a proximal direction to cause the distal stop to abut against the filter element.

Claims 94-95. (canceled).

96. (previously presented): The method of claim 92 further comprising:

providing a retrieval catheter having a pod;

advancing the retrieval catheter over the guide wire until the recovery pod covers a mouth of the filter element; and

urging the retrieval catheter against the self-expanding struts of the filter element to cause the filter element to collapse.

97. (new): A method of filtering emboli from blood flowing through a vessel, the method comprising:

providing a guide wire having a distal stop, and a filter element having a capture ring disposed for translation on the guide wire proximal of the stop;

transluminally inserting the guide wire and filter element into a vessel;

deploying the filter element to engage a wall of the vessel, the filter element filtering emboli out of blood flowing through the vessel;

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advancing a treatment device along the guide wire to treat a portion of the vessel proximal to the location of the filter element, rotation or distal translation of the guide wire relative to the filter element not displacing the filter element.

98. (new): A method of filtering emboli from blood flowing through a vessel, the method comprising:

providing a guide wire having a distal region including a distal stop, and a filter element disposed for translation on the guide wire proximal to the distal stop, the filter element comprising a plurality of self-expanding struts having a filter sac affixed thereto;

transluminally inserting the guide wire and filter element into a vessel;

deploying the filter element so that the struts and filter sac expand to engage a wall of the vessel, the filter sac filtering emboli out of blood flowing through the vessel;

advancing a treatment device along the guide wire to treat a portion of the vessel proximal to the location of the filter element, rotation or distal translation of the guide wire relative to the filter element not displacing the filter element;

further comprising retracting the guide wire in a proximal direction to cause the distal stop to abut against the filter element.

99. (new): A method of filtering emboli from blood flowing through a vessel, the method comprising:

providing a guide wire having a distal stop, and a filter element disposed for translation on the guide wire proximal to the distal stop, the filter element comprising a plurality of self-expanding struts having a filter sac affixed thereto;

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transluminally inserting the guide wire and filter element into a vessel;
deploying the filter element so that the struts and filter sac expand to engage a wall of the vessel, the filter sac filtering emboli out of blood flowing through the vessel;
advancing a treatment device along the guide wire to treat a portion of the vessel proximal to the location of the filter element, rotation or distal translation of the guide wire relative to the filter element not displacing the filter element;
further comprising:
providing a retrieval catheter having a pod;
advancing the retrieval catheter over the guide wire until the pod covers a mouth of the filter element; and
urging the retrieval catheter against the self-expanding struts of the filter element to cause the filter element to collapse.